

In the claims:

Please amend the claims to read as follows:

1. (Currently amended) A pretreatment process for solid sedimentary iron ore lump feed material for a gas and pellet/lump-based moving bed shaft direct reduction processes, comprising:
storing solid lump feed material in a stockpile for a predetermined time[[,]] in an open atmosphere, in order to release internal stresses of the sedimentary lump ores;
pre-drying the lump feed material to a water content less than about 0.5% by weight prior to charging the feed material to a gas-based direct reduction furnace;
increasing the thermal profile of the furnace, to reduce the zone of low-temperature reduction;
thereby minimizing the formation of fines within the furnace.
2. (Currently amended) A process according to claim 1, wherein the lump feed material is stored in a stockpile for at least one month.
3. (Currently amended) A process according to claim 1, wherein the lump feed material is pre-dried at a temperature of about ~~200~~ 200°C.

4. (Currently amended) A process according to claim 1, wherein said pre-drying is accomplished in a feed storage bin by introduction of waste off-gases at a sufficient temperature to heat the feed material in the storage bin.

5. (Currently amended) A process according to claim 4 wherein the waste off-gas temperature is in excess of ~~300~~ 300°C upon introduction into the feed storage bin.

6. (Original) A process according to claim 4, wherein said waste off-gases are removed from a reformer associated with the direct reduction process.

7. (Currently amended) Apparatus for pre-drying feed material to a direct reduction shaft furnace, comprising:

a shaft furnace having an upper feeding and heating portion, a middle gas feeding and reducing portion, and a lower product discharge portion;

means for removing hot gas from the furnace;

reformer means for reforming removed off-gas, including means for heating the reformer by combustion of gas, and means for removing waste combusted off-gas from ~~the heating of~~ the reformer;

a feed material storage bin, said means for removing waste off-gas communicating with said storage bin for heating the contents thereof; and

means for transporting the heated feed material to the furnace and for charging the heated feed material into the furnace for reduction.

8. (Original) Apparatus according to claim 7 wherein said feed storage bin is enclosed, and said means for transporting the heated feed material to the furnace is insulated.

Add the following new claims 9 and 10:

9. (New) A process according to claim 1 further comprising charging the pre-dried iron ore lump feed material into the shaft furnace separately from any lime coated pellet feed material.

10. (New) Apparatus according to claim 8, further comprising means for adjusting the temperature of the waste combusted off-gas between said means for removing waste combusted off-gas and said feed material storage bin.